
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 8-K

**CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

Date of report (Date of earliest event reported): June 9, 2009

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in Charter)

Massachusetts
(State or Other Jurisdiction
of Incorporation)

000-23599
(Commission File Number)

04-2741391
(IRS Employer
Identification No.)

201 Riverneck Road, Chelmsford, Massachusetts 01824
(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code: (978) 256-1300

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 7.01 Regulation FD Disclosure.

The management of Mercury Computer Systems, Inc. ("Mercury") will present an overview of Mercury's business on June 9, 2009 at Noble Financial's Fifth Annual Equity Conference. Attached as Exhibit 99.1 to this Current Report on Form 8-K (the "Report") is a copy of the slide presentation to be made by Mercury at the conference.

This information is being furnished pursuant to Item 7.01 of this Report and shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section and will not be incorporated by reference into any registration statement filed by Mercury under the Securities Act of 1933, as amended, unless specifically identified as being incorporated therein by reference. This Report will not be deemed an admission as to the materiality of any information in this Report that is being disclosed pursuant to Regulation FD.

Please refer to page 2 of Exhibit 99.1 for a discussion of certain forward-looking statements included therein and the risks and uncertainties related thereto, as well as the use of non-GAAP financial measures included therein.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Presentation materials dated June 9, 2009 (filed herewith).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Dated: June 9, 2009

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Alex A. Van Adzin
Alex A. Van Adzin
Vice President, General Counsel,
and Corporation Secretary

Exhibit Index

<u>Exhibit No.</u>	<u>Description</u>
99.1	Presentation materials dated June 9, 2009 (filed herewith).



Noble Financial Equity Conference

Mark Aslett – President & CEO
Bob Hult – SVP, CFO

June 9, 2009

Forward-Looking Safe Harbor Statement

This presentation contains certain forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, including those relating to anticipated fiscal 2009 business performance and beyond. You can identify these statements by our use of the words "may," "will," "should," "plans," "expects," "anticipates," "continue," "estimate," "project," "intend," and similar expressions. These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. Such risks and uncertainties include, but are not limited to, general economic and business conditions, including unforeseen weakness in the Company's markets, effects of continued geopolitical unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, continued funding of defense programs, the timing of such funding, changes in the U.S. Government's interpretation of federal procurement rules and regulations, market acceptance of the Company's products, shortages in components, production delays due to performance quality issues with outsourced components, the inability to fully realize the expected benefits from acquisitions or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies and difficulties in retaining key customers. These risks and uncertainties also include such additional risk factors as are discussed in the Company's recent filings with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended June 30, 2008. The Company cautions readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. The Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made.

Use of Non-GAAP (Generally Accepted Accounting Principles) Financial Measures

In addition to reporting financial results in accordance with generally accepted accounting principles, or GAAP, the Company provides non-GAAP financial measures adjusted to exclude certain specified charges, which the Company believes are useful to help investors better understand its past financial performance and prospects for the future. However, the presentation of non-GAAP financial measures is not meant to be considered in isolation or as a substitute for financial information provided in accordance with GAAP. Management believes these non-GAAP financial measures assist in providing a more complete understanding of the Company's underlying operational results and trends, and management uses these measures, along with their corresponding GAAP financial measures, to manage the Company's business, to evaluate its performance compared to prior periods and the marketplace, and to establish operational goals. A reconciliation of GAAP to non-GAAP financial measures discussed in this presentation is contained in the Company's Third Quarter of Fiscal Year 2009 earnings release, which can be found on our [website at www.mc.com/mediacenter/pressreleaseslist.aspx](http://www.mc.com/mediacenter/pressreleaseslist.aspx).

Introduction

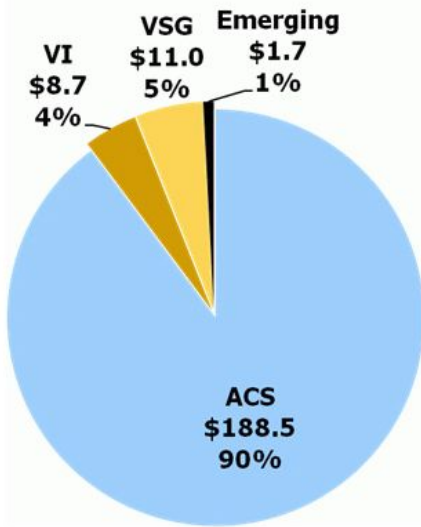
- New strategy and management team well established
- Improved FY08 financials – restored profitability Q3FY09
- Strong core defense business –stabilizing commercial
- Defense provides long-term profitable growth potential
- Evolve beyond COTS boards to complementary Services and Systems Integration – Converged Sensor Network™ (CSN™) Architecture
- Mercury Federal Systems a means to evolve Mercury's business model and expand our total addressable market

**Become the government's trusted partner for next-generation
ISR signal processing and computing solutions**

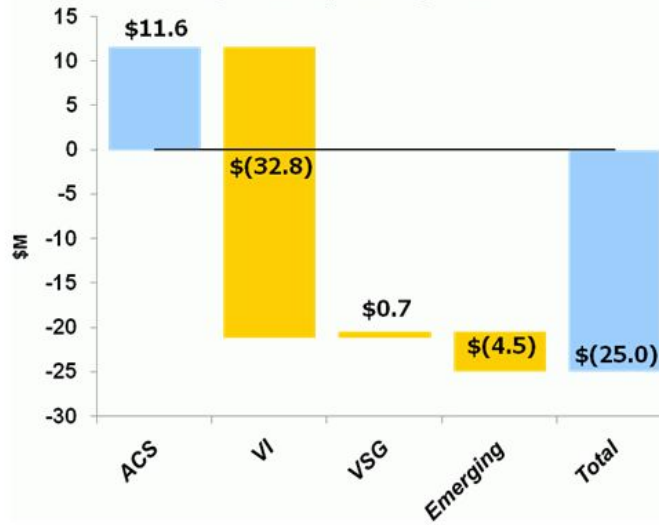
Significant company dynamics (#'s GAAP FY08)

- Revenue and profitability strength in ACS business
- Non-core businesses eroding operating profits

Segment Revenue FY08 (\$M)



Segment Operating Profit FY08



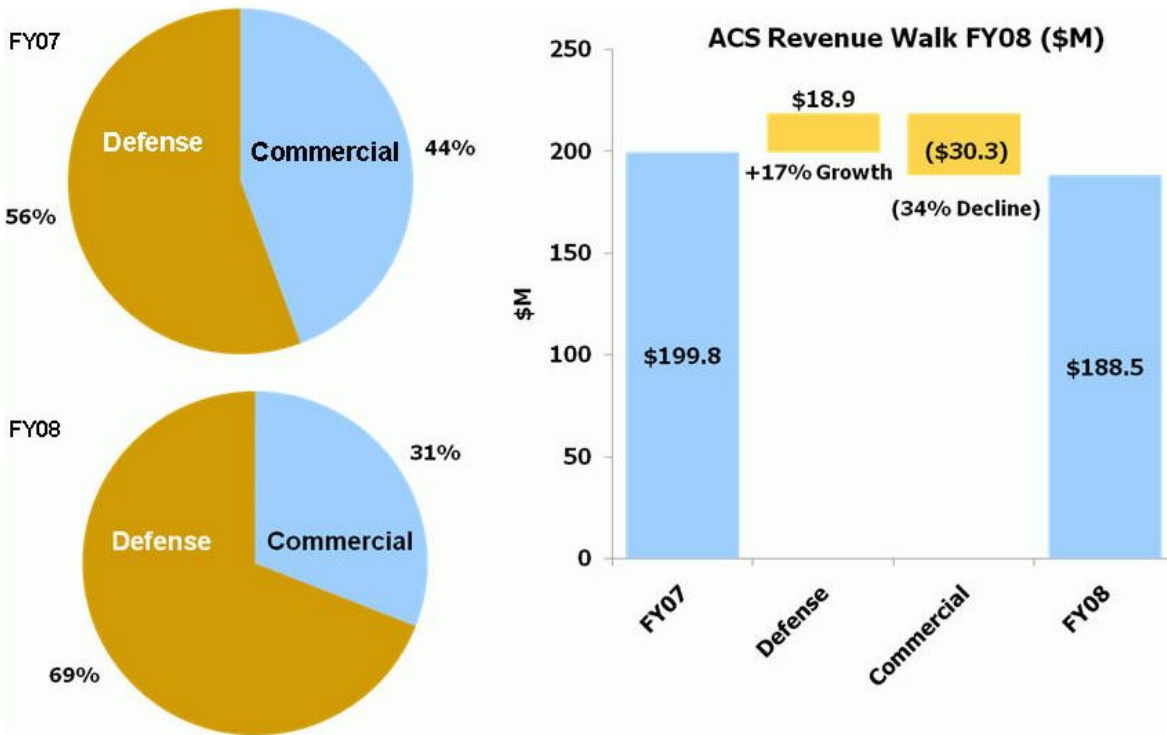
Includes \$7.3M amortization expense, \$5.2M restructuring, \$18M goodwill impairment, \$3.2M gain for sale of long-lived asset, and \$0.8M inventory write-down

Notes:

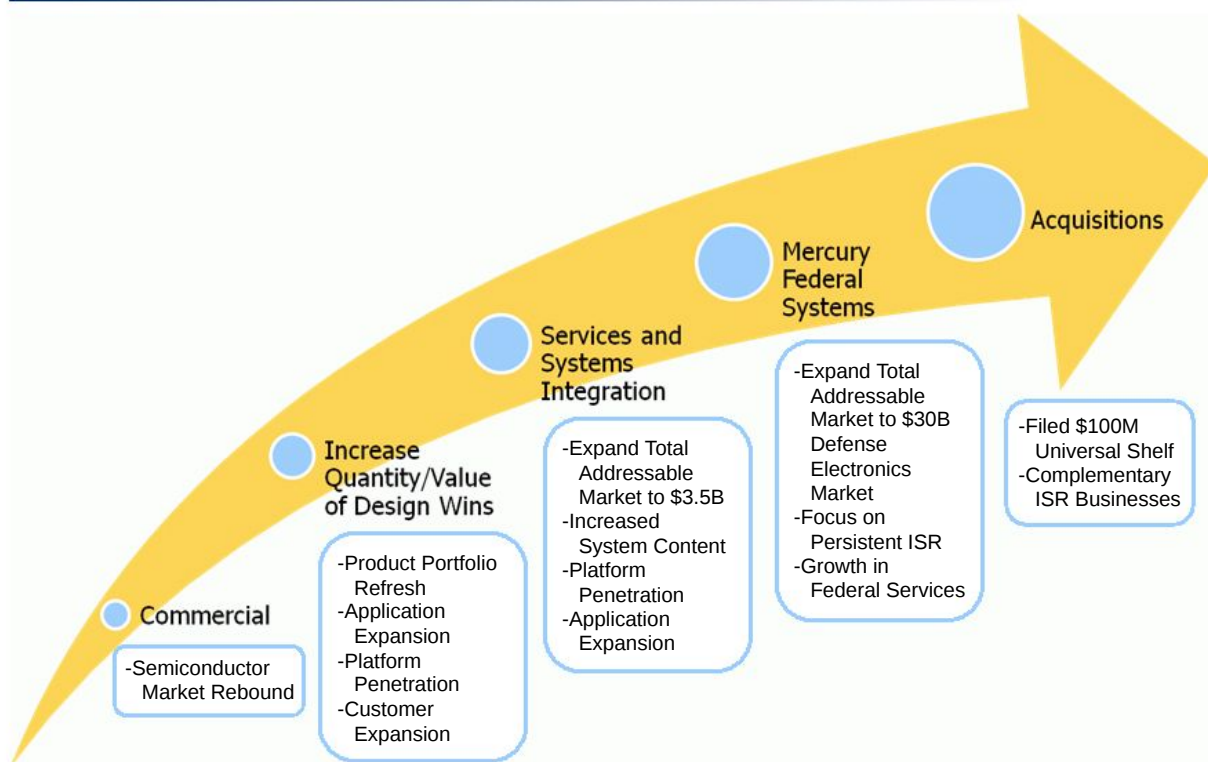
1) FY08 Operating Profit Total excludes stock-based compensation expense

Major ACS business dynamics

- Focus on strengthening and growing the defense business



5 key business growth drivers



Strength in ACS defense markets

- 17% revenue growth and 33% bookings growth in FY08
- Strong revenue growth in Radar, C4I and EW



- Focused on the C4ISR market going forward

Growing and evolving our COTS defense core

- Highly penetrated across many programs and platforms – presents good upgrade opportunities and lower risk
- Design win-led – refresh product portfolio
- Tactically penetrate more programs on new and existing platforms on land, air, and sea
- Expand presence in additional defense application segments, such as Electronic Warfare (EW) and EO/IR (Electro Optical/Infra-Red)
- Growth in complementary Services and Systems Integration
- Revolutionize embedded sensor processing with the [Converged Sensor Network™ Architecture](#)

Leverage defense installed base, product roadmap and relationships to expand into new applications and platforms

Design wins driving growth in Defense



Global Hawk
Predator
Rivet Joint
JSTARS
F-35 JSF
BAMS
MESA
F-16
MP-RTIP
Guardrail



JCREW
PAR-2000
Commander
LRR
HML
SIGINT Ground System



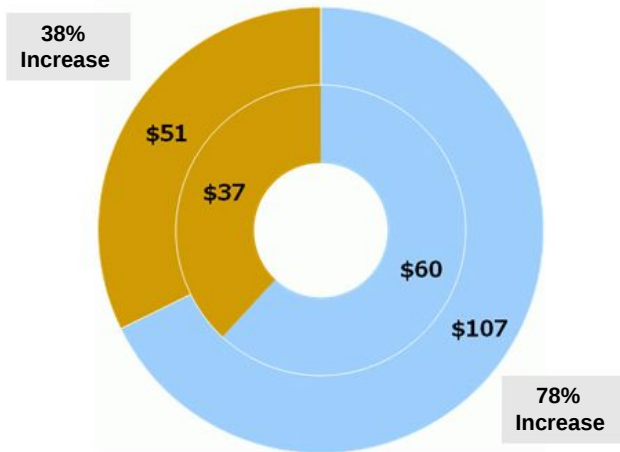
Aegis
SQQ-89
Sampson
Empar
International Combat System
Naval SIGINT Platform

Partial list of well-known programs relying on Mercury technology

ACS 5-year design win value increased 63% YTD

ACS Design Win Value Q1-Q3 FY08-FY09
Probable 5-year value \$m

■ Defense ■ Commercial



FY08: Defense \$60M, Commercial \$37M
FY09: Defense \$107M, Commercial \$51M

Defense Highlights

- Aegis – Naval BMD, C4I
- Missile Defense – Ground Radar
- Argon – Naval SIGINT
- Predator – Airborne Radar
- JCREW – Ground SIGINT
- Rivet Joint – Airborne SIGINT
- WAAS – Airborne ISR
- NASP – Airborne Sonar
- Guardrail – Airborne SIGINT

Commercial Highlights

- KLA Tencor – Semiconductor
- Hughes – Satellite Comms
- Rapiscan – Baggage Scanning
- L3 – Baggage Scanning
- ASML – Semiconductor

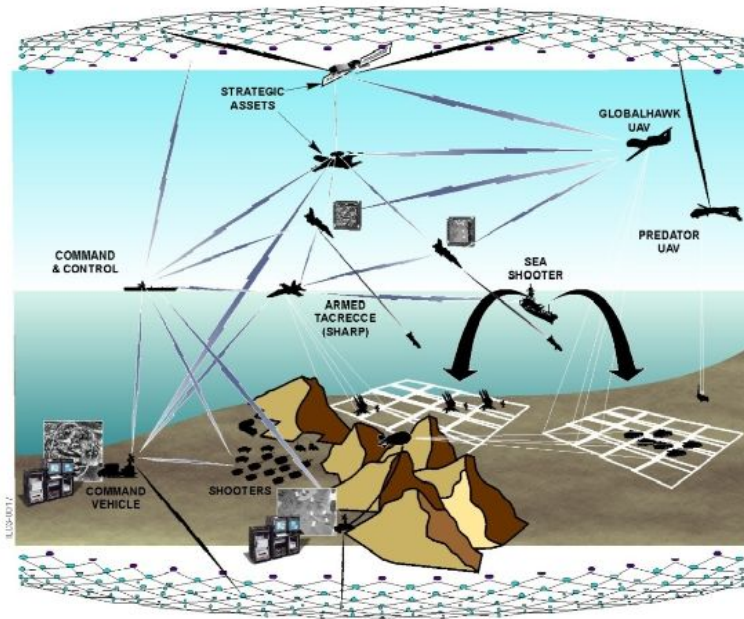
The Federal market: continuously evolving

DoD	1993	2008	2013e
Budget (\$B)	258	490	511
Supplemental (\$B)	None	+190 GWOT	None planned
R&D (\$B)	44	78	63
Procurement (\$B)	56	101	113
C4ISR Budget (\$B)	13	18	24
UAS Platforms (#)	25	2,100	3,300
Ships/Subs (#)	600	340	313
Fed Svcs(\$B)	95	250	310
Embedded S/W (\$B)	0.4	3	4.2

Growth trend will be in ISR systems, systems integration and related engineering services

Source: DoDBudget Request FY93 and FY2008

"Today's" ISR architecture is fundamentally flawed



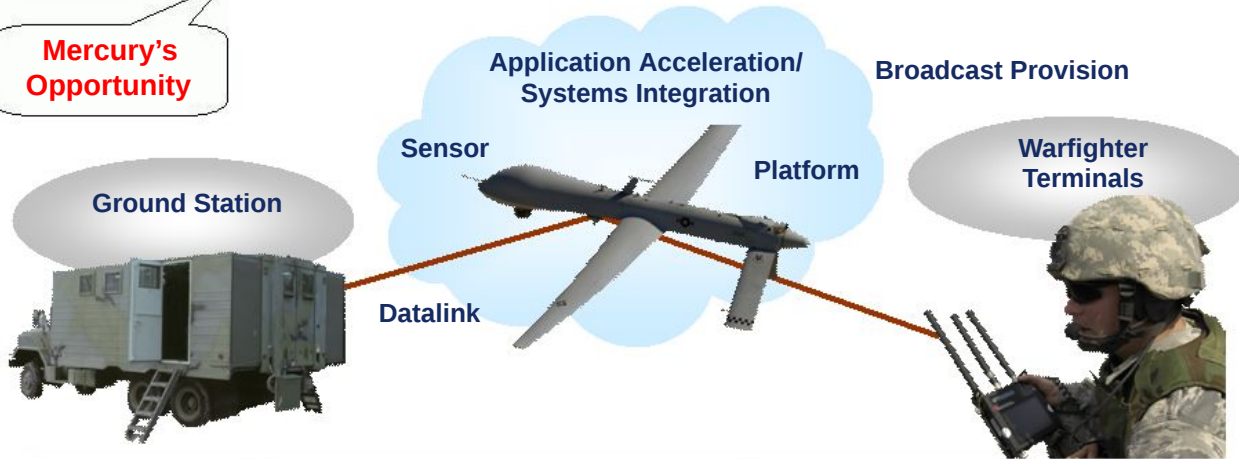
- Retrofit and upgrades remain strong for legacy programs
- Increased need for EW – Intelligence, Surveillance, Reconnaissance assets
- Networked nodal platforms, virtualized sensors
- Next-gen onboard processing, exploitation and dissemination architecture critical

Must develop new architectures that heal, instead of add to, the old ones!

Airborne ISR R&D costs

	Signal Processing / Systems Integration	Platform	Sensor	Datalink	Ground Station	Warfighter Terminals	Broadcast Provision
1993	10%	40%	30%	5%	15%		
2008	45%	10%	15%	10%	10%	5%	5%

Mercury's Opportunity

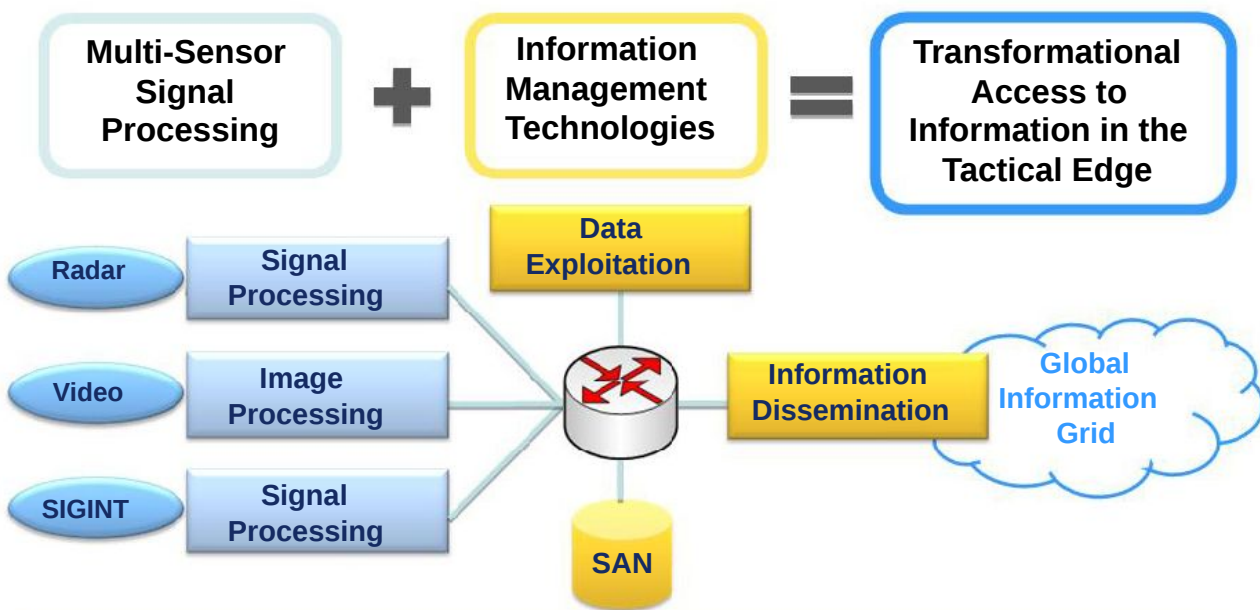


Budget priorities being realigned to maintain technology edge

Source: DoDBudget Request FY93 and FY2008

Mercury's new Converged Sensor Network TM (CSN TM) Architecture for ISR persistent surveillance

A revolutionary open architecture that combines



Become the government's trusted partner for next-generation ISR platform signal processing and computing

Defense procurement reform leads to transition

Today's Model

- Government frustrated with current prime model
- Platform-centric approach
- Proprietary closed systems architectures – little incentives to reuse
- Significant cost overruns – pay multiple times for similar capabilities
- Significant schedule slips – slow time to deployment

Emerging Model

- Open platform-independent architecture
- Best of breed model – proven on sensor side eg FLIR
- Likely to occur for signal processing and computing
- Lower cost – pay once for common architecture across multiple platforms eg MPRTIP
- Fast time to deployment and lower risk



Budget pressure and significant schedule slippage is leading to Defense procurement reforms that could benefit Mercury

ACS Defense and MFS – a hybrid business model

ACS COTS Defense

- Total addressable market COTS defense electronics (\$3B annually)
- Be told what board to develop by a prime
- Board-level design wins
- Develop everything on our own nickel
- Long payback period – high risk

with Mercury Federal

- Total addressable military electronics market (\$30B annually)
- Consult on overall signal processing architecture with the government
- Platform design wins
- Paid to develop elements that do not exist
- Lower risk, faster returns

Summary

- Rationalize portfolio of non-core businesses by end FY09
- Strengthen ACS defense business –stabilize commercial
- Grow ACS defense business by targeting upgrades, new platforms and application segments
- Market focus on Persistent ISR
- Evolve beyond COTS boards to complementary Services and Systems Integration – Converged Sensor Network™ Architecture
- Mercury Federal a means to evolve Mercury's business model and expand our total addressable market

**Become the government's trusted partner for next-generation
ISR signal processing and computing solutions**



Financial Overview

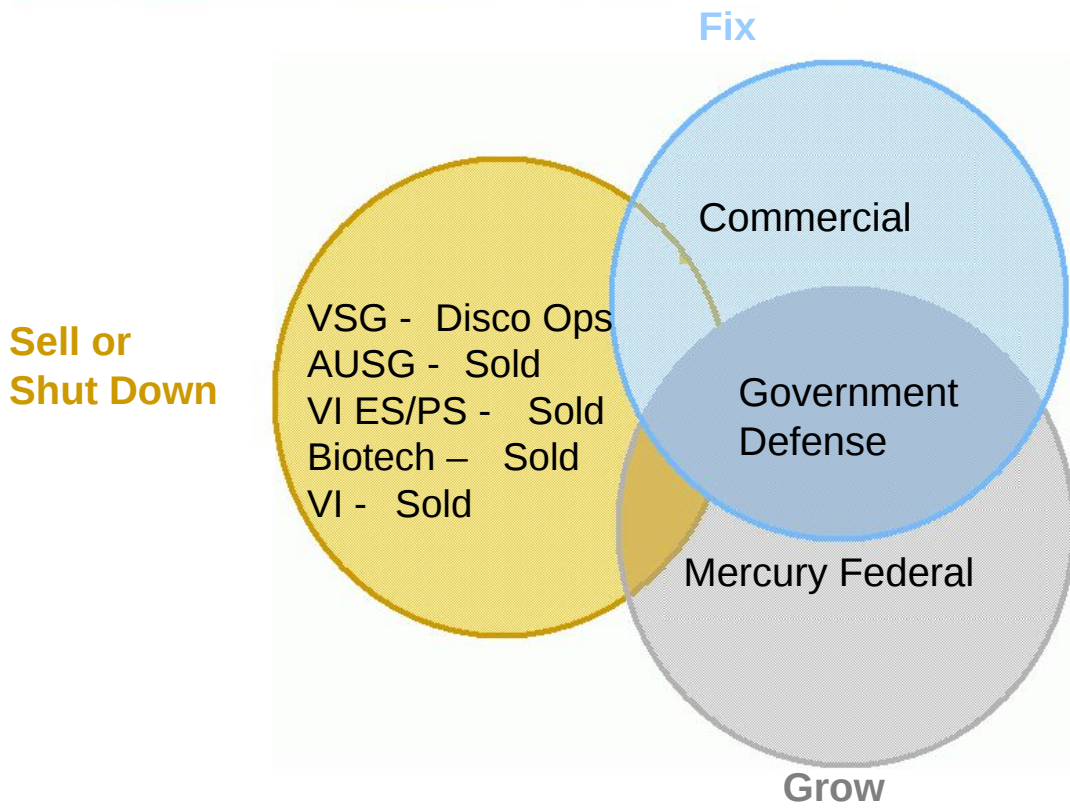
FY07 vs FY08: Improved Performance

Non-GAAP	FY07 Actual	FY08 Actual	FY08 vs. FY07
Revenue (\$M)	224	210	(6%)
Gross Margin % Revenue	55.8%	60.7%	4.9 pts
Operating Expenses (\$M)	139	127	9% Improvement
Operating Profit % Revenue	(14) (6.3%)	1 0.3%	\$15M Improvement
EPS	\$(0.29)	\$0.15	\$0.44 Improvement
Operating Cash Flow (\$M)	\$(10)	\$14	\$24M Improvement
# Employees	729	670	8% reduction

Notes:

1) All historical income statement figures are as reported in the Company's earnings press release at the end of the applicable fiscal year and have not been restated for operations that have been discontinued subsequent to that time.

Strategic Direction – Sell, fix or grow



Q3 FY09 Restored Profitability

Non-GAAP	FY08	Q1 – Q3 FY09 YTD	Q3 FY09
Revenue (\$M)	210	141	51
Gross Margin % Revenue	60.7%	56.8%	57.9%
Operating Expenses (\$M)	127	67	23
Operating Profit (\$M) % Revenue	1 0.3%	13 8.9%	7 13.3%
EPS	\$0.15	\$0.36	\$0.20
Operating Cash Flow (\$M)	14	8	3

Notes:

1)FY 09 income statement figures are adjusted for the discontinued operation of Embedded Systems & Professional Services, SolMap, VI and VSG.

2)FY 08 income statement figures are as reported in the Company's earnings press release at the end of the applicable fiscal year and have not been restated for discontinued operations of SolMap, VI and VSG.

Closing gap to current target business model

Non-GAAP	FY08	Q1 – Q3 FY09 YTD	Q3 FY09	Target Business Model
Revenue	100%	100%	100%	100%
Gross Margin	61%	57%	58%	58+%
SG&A	36%	25%	24%	Mid 20%
R&D	25%	23%	21%	High Teens
Income from Operations	0%	9%	13%	15%

Notes:

1)FY09 income statement figures are adjusted for the discontinued operation of Embedded Systems & Professional Services, SolMap, VI and VSG.

2)FY08 income statement figures are as reported in the Company's earnings press release

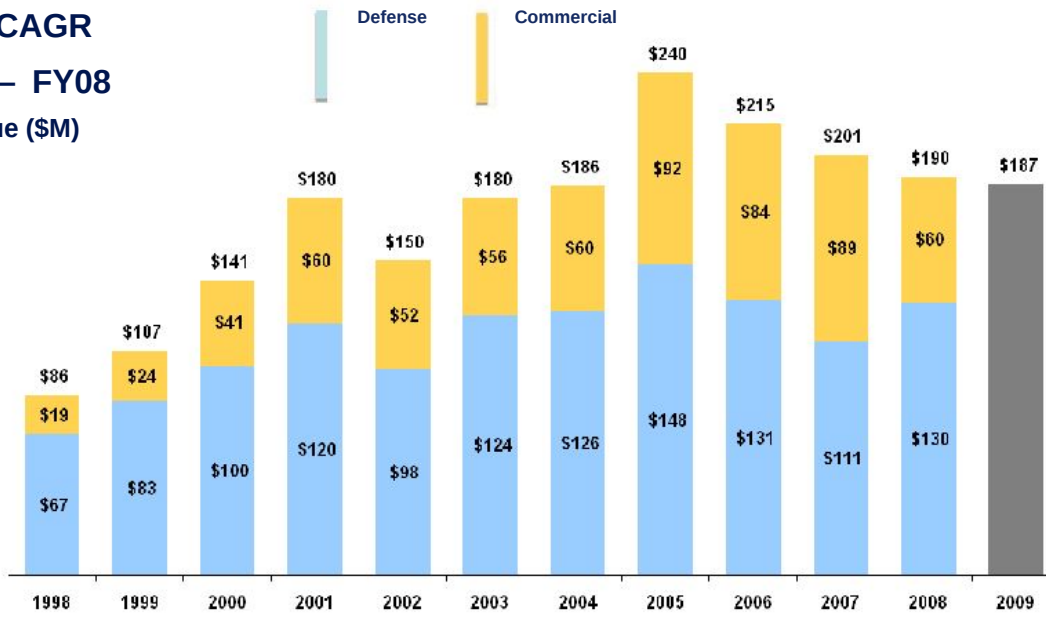
Revenue growth: Driven by Defense

June Fiscal Year End

~ 8% CAGR

FY98 – FY08

Revenue (\$M)



Notes:

- 1) All historical figures adjusted for the discontinued operation of Embedded Systems & Professional Services, SolMap, VI and VSG
- 2) 2009 comprised of Q3 YTD Actuals plus mid-point of Q4 guidance

Focus on Working Capital

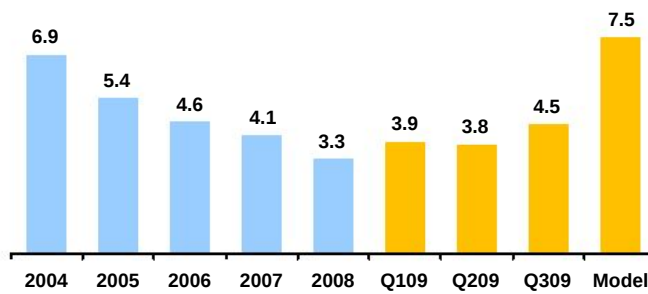
- Supply chain transformation

- Operational efficiencies
- Manufacturing lead times
- Cost of quality
- Competitive advantage for Mercury and customers
- Inventory reduced approx. \$10M since Q3 FY08

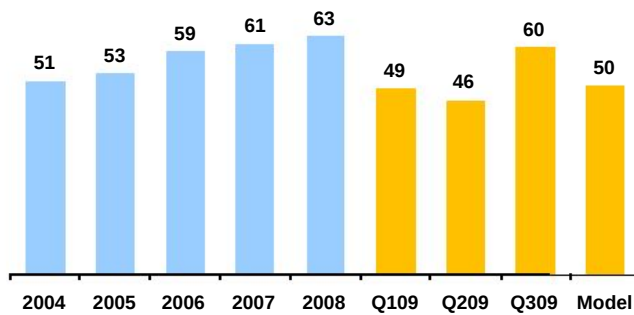
- Customer satisfaction

- DSO below model
- End-of-quarter shipment skew

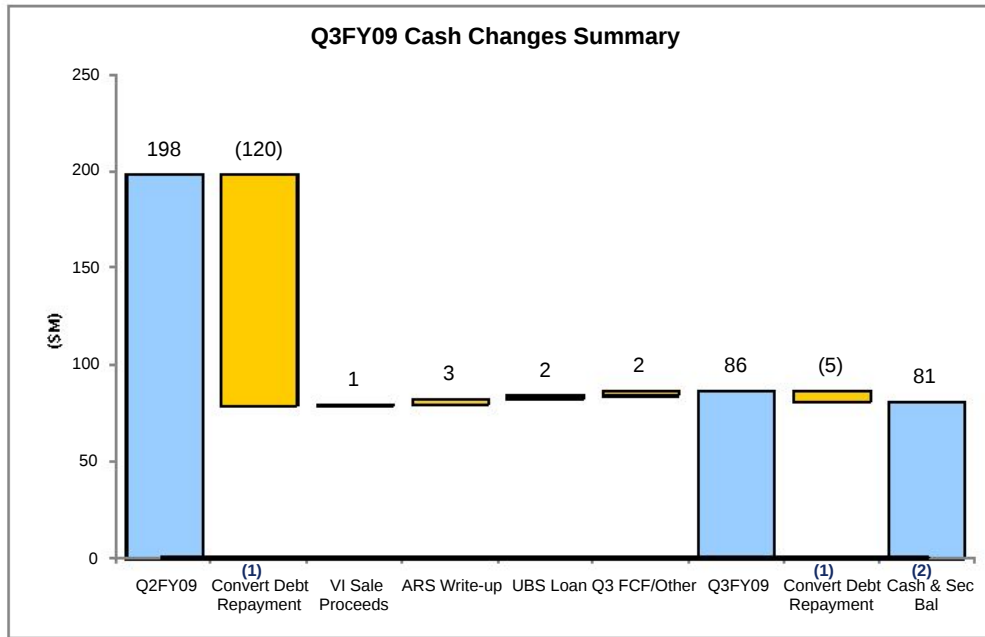
Inventory Turns



Days Sales Outstanding



FY09 Mercury Cash Balance Analysis



Notes: (1) Repurchased \$120M and \$5M (face value) of convertible debenture on Feb. 4, 2009, and May 1, 2009, respectively, equal to the principle amount of the Notes, plus accrued interest
 (2) Includes \$33.4M UBS Loan and \$45.0M Auction Rate Securities

Guidance Summary (Non-GAAP)

	Q108		Q208		Q308		Q408		Q109		Q209		Q309	
	Reported	Guidance	Reported	Guidance	Reported	Guidance	Reported	Guidance	Reported	Guidance	Reported	Guidance	Reported	Guidance
Revenue (\$M)	49.2	48.0	52.6	51.0	56.5	53.0-55.0	55.2	53.0-56.0	49.1	47.0-49.0	50.7	47.0-49.0	50.6	48.0-50.0
EPS (\$)	0.09	(0.08)	0.04	(0.05)	0.04	(0.04)-0.00	0.01	(0.05)-0.01	0.07	(0.07)-(0.03)	0.03	(0.05)-0.00	0.20	0.05-0.09

Last 7 quarter's revenues and EPS exceeded or met the top end of guidance

Q4 Fiscal Year 2009 Guidance

Quarter Ending June 30, 2009		
Revenues (\$M)	\$46 - \$48	
	GAAP	Non-GAAP
Gross Margin	Approx. 52% - 53%	Approx. 52% - 53%
EPS	\$0.04 - \$0.08	\$0.05 - \$0.08

- Impact of equity-based compensation costs related to FAS 123R of approximately \$0.2M excluded from non-GAAP
- Acquisition-related amortization of approximately \$0.5M excluded from non-GAAP
- Non-GAAP tax rate 34%

Notes:

1) Figures in millions, except percent and per share data



Appendix

GAAP to Non-GAAP Reconciliation

Q409 Guidance Reconciliation*

	RANGE	
	Earnings From Continuing Operations Per Share - Diluted	Earnings From Continuing Operations Per Share - Diluted
GAAP expectation	\$ 0.04	\$ 0.08
Adjustment to exclude stock-based compensation	0.01	0.01
Adjustment to exclude amortization of acquired intangible assets	0.02	0.02
Adjustment for tax impact	<u>(0.02)</u>	<u>(0.03)</u>
Non-GAAP expectation	\$ 0.05	\$ 0.08

* Per Company guidance range, April 28, 2009 earnings conference call

GAAP to Non-GAAP Reconciliation

	Year Ended <u>June 30, 2007</u>	Year Ended <u>June 30, 2008</u>	Three Months Ended <u>March 31, 2009</u>	Nine Months Ended <u>March 31, 2009</u>
GAAP net income (loss) from continuing operations	\$ (37.8)	\$ (35.4)	\$ 4.7	\$ 4.8
Adjustment to exclude stock-based compensation	10.6	10.4	1.2	4.7
Adjustment to exclude inventory write-down	-	0.8	-	-
Adjustment to exclude in-process research and development	3.1	-	-	-
Adjustment to exclude amortization of acquired intangible assets	7.2	7.3	0.5	2.0
Adjustment to exclude impairment of goodwill and long-lived assets	0.1	18.0	-	-
Adjustment to exclude restructuring	5.5	5.2	0.2	0.7
Adjustment to exclude gain on sale of long-lived assets	-	(3.2)	-	-
Adjustment for tax impact	5.2	0.2	(2.2)	(4.1)
Non-GAAP net income (loss) from continuing operations	<u>\$ (6.1)</u>	<u>\$ 3.3</u>	<u>\$ 4.4</u>	<u>\$ 8.1</u>
Net income (loss) per share from continuing operations -- Diluted				
GAAP	<u>\$ (1.78)</u>	<u>\$ (1.64)</u>	<u>\$ 0.21</u>	<u>\$ 0.22</u>
Non-GAAP	<u>\$ (0.29)</u>	<u>\$ 0.15</u>	<u>\$ 0.20</u>	<u>\$ 0.36</u>
Weighted average shares -- Diluted:				
GAAP	<u>21.2</u>	<u>21.6</u>	<u>22.5</u>	<u>22.4</u>
Non-GAAP	<u>21.2</u>	<u>22.0</u>	<u>22.5</u>	<u>22.4</u>

Notes:

1) All historical income statement figures are as reported in the Company's earnings press release at the end of the applicable fiscal period



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